Application of Nano Technology VTU CBCS Question Paper Set 2018

CBCS Scheme

USN | | | | | | | | | | |

15NT45

Fourth Semester B.E. Degree Examination, June/July 2017
Application of Nano Technology

Time: 3 hrs. Max. Marks: 80

Note: ***Answer FIVE full questions, choosing one full question from each module.***

Module-1

1 a. What are Photo voltaics? Explain about the limitations of Conventional photo voltaics and Applications of nano technology in photovoltaics. **(08 Marks)**

b. What are Nano batteries? Explain their advantages and nano technology applications. **(08 Marks)**

OR

2 a. Explain about construction and working of CIGS solar cells. **(06 Marks)**

b. Explain about the applications of nano technology in hydrogen fuel cells. **(10 Marks)**

Module-2

3 a. Write a short note on applications of nano technology to energy production and energy transmission system development. **(08 Marks)**

b. Describe about Oligodynamic effect and mechanism of oligodynamic action of nano particles. **(08 Marks)**

OR

4 a. Explain about nano technology assisted heterogeneous photo catalysis. **(06 Marks)**

b. Write a note on sensors for helmets. **(05 Marks)**

c. Explain about applications of nano technology for smart equipment. **(05 Marks)**

Module-3

5 a. Describe about nano scale carriers and micro fabricated system vessels. **(08 Marks)**

b. Write a short note on Zoonotic diseases. **(04 Marks)**

c. What is Nano food? Explain the importance of nano food. **(04 Marks)**

OR

6 a. Explain about the applications of nano lingo cellulosic materials and halloy sites. **(08 Marks)**

b. What are Biosensors? Explain about types of biosensors. **(08 Marks)**

Module-4

7 a. Explain about Self cleaning coatings and anti – stain coatings. **(10 Marks)**

b. Write a short note on : i) Nano material modified steel ii) Nano technology for forming of high strength steel iii) Gluing and detaching components. **(06 Marks)**

OR

8 a. Explain in detail about UV – protection , Corrosion and Moisture resistance of buildings using nano materials and their products. **(10 Marks)**

b. Discuss about anti – fogging , anti – icing and anti – microbial coatings. **(06 Marks)**